



Instructional Objective(s):

Students will be able to:

1. List three causes of climate change.
2. Describe at least two impacts to the environment caused by climate change.

Prerequisite Concepts and Skills:

Vocabulary

Pollution, climate change, global warming, greenhouse effect (these words to be taught in context during the lesson)

Materials and Resources

Model of earth and sun (NPS provided)
White strips of paper, 1 per student, (teacher created)
5 yellow strips of paper (teacher created)

Reading materials: (NPS provided master copies)

<http://www.timeforkids.com/news/going-extremes/41921>

<http://www.timeforkids.com/news/polar-bears-peril/86701>

<http://www.timeforkids.com/news/president%E2%80%99s-climate-plan/97006>

<http://www.epa.gov/climatestudents/basics/today/index.html>

<http://www.epa.gov/climatestudents/impacts/effects/index.html>

Sufficient copies of reading materials for student work groups

Worksheet 1.1 (NPS provided master copy)

Lesson Activities: 40 min

Teacher Activities	Student Activities	Time:
Introduction: 1. Explain to students that they will be spending the next two weeks learning about climate change and what scientists are doing to address climate change. Brainstorm – have students share what they already know about climate change.	1. Listen, participate, and discuss.	5 min
New Content:	1. Students write one type of pollution on their strip	3 min

This lesson was created in partnership with the Teacher-Ranger-Teacher program through the National Park Service.

<p>1. Pass out white strips of paper to students. Ask students to write one type of air pollution on their strip of paper. Collect the strips and tape them together in a circle.</p> <p>2. Have student volunteers hold up the model of the earth and the sun. Use the yellow strips of paper to demonstrate how the sun's rays reach the earth and then bounce back away from the earth. Have another volunteer hold up the circle of "pollution" around earth. Again demonstrate the yellow rays hitting the earth, but then show how they are trapped by the pollution, thus warming the earth.</p> <p>3. Have students divide into pairs, read the text passages, and record their learning in worksheet 1.1.</p> <p>4. Have each pair summarize and share 2-3 facts they learned about climate change from their reading.</p> <p>5. Talk about how scientists respond to climate change by conducting scientific research (monitoring) and then taking action based on that research. <i>Lessons will focus on this over the next two weeks.</i></p>	<p>of paper. Use a student volunteer to collect the white strips and tape them together as students finish.</p> <p>2. Three student volunteers, remaining students are listening</p> <p>3. Students read text with their partner, fill in worksheet 1.1, and plan what they will share with the class.</p> <p>4. Students present the most important facts from their articles to the class. Other students use the information presented to finish filling out worksheet 1.1.</p> <p>5. Students share examples of when research or learning has led students to take action in their personal life.</p>	<p>5 min</p> <p>10 min</p> <p>10 min</p> <p>2 min</p>
<p>Wrap Up:</p> <p>1. Ask students how they think climate change or global warming is impacting the local community.</p> <p>2. Exit ticket question: "How is climate change caused and what are some of its impacts?"</p>	<p>1. Discuss and share out.</p> <p>2. Quick write.</p>	<p>5 min</p>

Organizational and/or Behavioral Management Strategies:

Assessment and Evaluation:

Extensions:

Adaptations:

Teacher Reflections: